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Oil Pollution Control (An Oversimplified Explanation)

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The non-technical handler of petroleum products in informed, in low keyed language, on the principal features of the oil spill regulations in the 1970 Federal Water Pollution Control Act. Some simple containment & cleanup techniques are diagramed.

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OIL POLLUTION CONTROL
(An Oversimplified Explanation)

ENVIRONMENTAL PROTECTION AGENCY

Southeast Region

Atlanta, Georgia

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INTRODUCTION

Experience has shown a wide range of understanding of the 1972 oil laws and subsequent regulations. This will vary from ignorance of the law to total understanding. Because the fines and penalties are severe to both the knowing and unknowing, it would be helpful to all concerned to have at least a layman's speaking knowledge of Section 11 of the 1970 Water Pollution Control Act, as amended (33 USC 466 et seq.).

So let us simply and clearly discuss together the impact of this law on the oil industry, in particular, on those relatively small commercial concerns handling small quantities of oil and related petroleum products.

THE LAW

What is a spill? A spill is a discharge of oil into waters of the U.S. that will cause, among other things, a "visible sheen."

What waters? The inland navigable waters of the U.S., also the coastal waters including waters between 3 and 12 miles from the coast.

Who has to be notified? The law provides a $10,000 fine or a year in jail, or both, for the "person in charge of a vessel or facility" spilling oil who fails to immediately notify the commander of the nearest U.S. Coast Guard unit or the Regional Office of the Environmental Protection Agency. The EPA Regional Offices are in Atlanta, Chicago, Dallas, Denver, Philadelphia, New York, Boston, Portland, San Francisco, and Kansas City. U.S. Coast Guard units are in major port cities.

What then? Time is of prime importance. Take bold immediate steps to *contain* the spill as near the source as possible. The fact that you reported automatically insures immediate aid from a number of Federal and State people who are experienced in your type problem.

Whom do I deal with directly? Since many states do not have specific oil control laws, the Federal Government has developed strong Federal laws and regulations for this purpose. Therefore, the Federal Government has a predesignated "On Scene Commander" (OSC) who will contact you immediately. He will be your focal point for advice, decisions, problems, and will, in most cases, judge your response to the emergency.

How do I contact this OSC or find out who he is? Once you have reported your spill he will contact you. The man you want to deal with on a pre-spill basis is the "Oil Coordinator"–we will talk more about him later.

Do I clean up or does the Government? You do; and should you fail to begin immediately with a genuine effort, the OSC will take over and spend Federal funds to get the job done. You will be subject to paying all bills incurred by the Government up to $8,000,000 for on- and off-shore facilities and $14,000,000 for vessel spills. Also, you may be fined heavily under different sections of the law because you failed to act. This is different from "failure to report."

How do I know I'm doing enough? The OSC will tell you.

When am I through? When the OSC officially tells you.

If I report promptly and do a good job, will I be fined by the Government? Possibly, but the fine can be reduced by your efforts.

Can I be sued by private groups or individuals? Yes. For damages actually incurred.

Can I be sued by cities, states, or other sovereign bodies, besides the U.S. Government? Yes. For damages.

Will someone help me with my problem before a spill occurs? Yes. The USCG and/or EPA will help you with a prevention program–but the liability for a spill will always remain with you.

Should I have a spill, are there sources of immediate aid in terms of borrowing equipment, renting or otherwise? Yes. The OSC will be able to help you; also some Federal and State entities such as the USCG, TVA, USCE, and EPA will lend or rent combatant equipment. Certain large petrochemical industries and "mutual aid groups" throughout the U.S. have demonstrated a willingness to cooperate in fighting spills.

How do I find out exactly who may be of help to me specifically? Well, this requires a little effort on your part. Call the USCG District or the EPA Regional Office nearest you and ask to speak to the Oil Coordinator. This man will get you into the mainstream of activity in Oil Pollution Control. He will advise you as to who may have equipment or who may have committed themselves to aid others–or he may advise that you are in a sparsely equipped area. You may find yourself a leader in forming a mutual aid group.

What exactly is a mutual aid group? A group of oil handlers that form a pact for the purpose of self-protection from oil spills. They may purchase equipment, but certainly they will develop a prevention and combat plan.

Do we need a State or Federal Charter or Special License? No. However, you should establish communications with EPA and the USCG so they can aid where possible.

You keep saying EPA and USCG as if I should contact both–Whoa! EPA and USCG have somewhat divided responsibilities. USCG is responsible for coastal spills and EPA inland spills, but don't let this shake you; use the phone, find out where you are, and establish a contact.

THE SPILL

I'm beginning to feel that the small spill–say a gallon–is as significant as a large one. Absolutely; 5,000 one-gallon spills over 10 states can have more of an environmental impact than one 5,000-gallon spill in one area. So that there would be no haggling over what a spill is and to emphasize prevention, the Federal law establishes a visible sheen as an identifying criterion.

How about chemicals? Shouldn't I spray these small sheens with non-toxic dispersants? Unless the OSC has declared an emergency, chemicals should *not* be used that will emulsify or disperse the oil. As a general rule, sinkants should not be used at all. In any case let the OSC advise you; otherwise you risk additional fines.

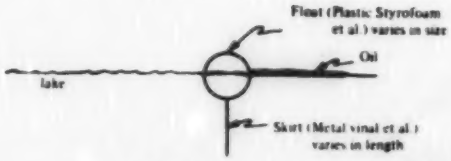
What about absorbents? As a general rule, absorbents are good. Such natural products as hay, crushed peanut shells, crushed corncobs, together with a long list of commercial absorbents, are both useful and acceptable. Just be sure you don't use a product that makes the situation worse. For example: *Containment* is the key; trap the oil close to the source and in a small area. If you do this, use skimming devices or vacuum (septic tank) trucks to remove the oil. You can see that to throw absorbents in here will foul your recovery efforts. On the other hand, if you lack containment equipment (and you shouldn't by now), hay or other absorbents tend to retard the movement of oil, thus making recovery a possibility and can minimize damage. The OSC will be helpful in your decision.

How do I contact this OSC? The OSC may or may not be a person who is available prior to a spill. This is a term used to identify the single authoritative Federal official on the scene. You recall, I told you to call the "Oil Coordinator" with EPA or USCG. He will aid you in your pre-spill planning.

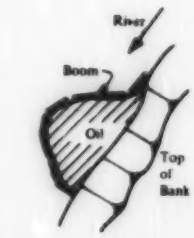
How about some definitions? I hear a lot about booms and skimmers– A *boom* is a floating device that will contain oil on water. They vary from commercial products costing from $10.00 to $60.00 a foot, to bales of hay strung tightly together with rope.

Let's look at some field examples, realizing, of course, there are many types on the market and many applications. *See illustrations on page 4.*

COMMERCIAL BOOM



Section View

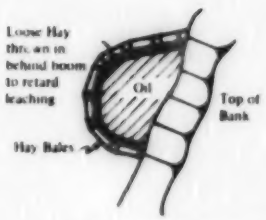


Plan View

Makeshift Boom

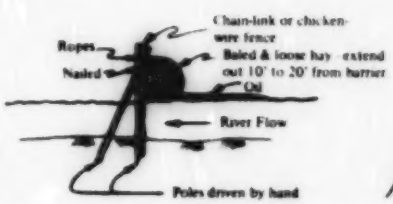
Hay bales bound very tightly (end to end)

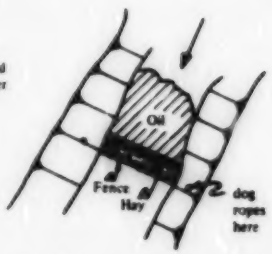
Note This system only good for 12-15 hours



Plan View

River Barrier Makeshift





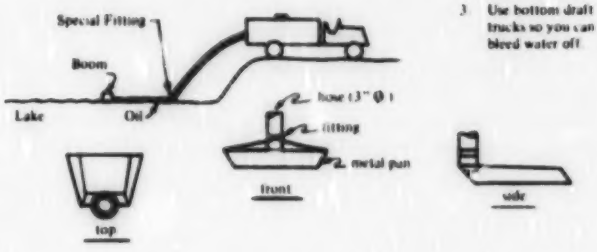
How do I pick it up when it's contained and/or absorbed?

Use a vacuum truck

Tips 1. Tighten boom as you remove oil keep the oil thick

2. Devise a fitting for the end of the hose Keep it around

3. Use bottom draft trucks so you can bleed water off

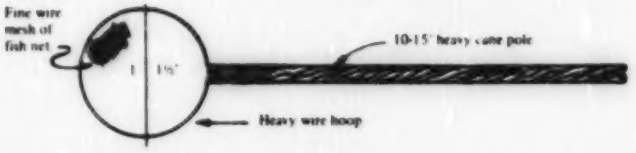


Special Fitting

Use rowboats and rakes

NOTE

Use drums in boat, pick up hay with rakes, pitchforks, or other absorbents with special rakes



Rake or Mesh Scoop

The skimmer is a commercial device that will skim and eject oil from your contained areas. These vary from a small centrifugal machine costing about $300.00 to a large self-powered rig costing $50,000.

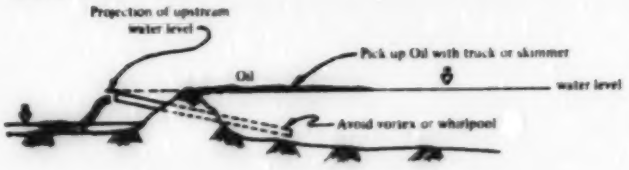
How about some tips for small spills in streams?

As a general observation - be bold, don't nibble at the problem.

1. Dam the stream.
2. Allow water to back up for several hundred feet. Establish a depth of 2-3 feet behind the dam.
3. Place any number of pipes (size depends on flow) in dam as shown. That's right, tilt the outfall end up. Once flow is established, pack around pipes.
4. Remove oil by skimming.

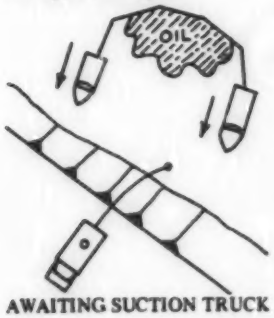
Steps 1 & 2

Note
Use 4-8" pipes (as many as required).
Make them at least 10' long.



Steps 3 & 4

For Open Lake Spills



AWAITING SUCTION TRUCK

Notes

1. Remember, make every effort to confine oil to a small compact area—this aids removal.
2. Use for example two power boats and 50' to 200' of boom. Gather the oil carefully and slowly bring it to shore for removal.
3. Caution: A boom is tough to handle—get yourself familiar with some of the gear mentioned herein.

Disposal of Oil

1. Bury it in holes (preferably clay soil).
2. If storage is possible, perhaps the county can use it on some of their back roads.
3. If not cluttered with straw or other absorbents and it hasn't been on the water for more than three days, a legal "Scavenger" may take it for reclamation.
4. *Don't* burn it! Even with a permit. Someone may have used a dangerous product such as Styrofoam as an absorber. You could create noxious smoke.

What about prevention? Most techniques are simple and inexpensive but require a little thought and impetus. Assuming that the law now provides the impetus, begin your thinking by surveying your operation. First, look at the general scheme, i.e., your facility and its own surroundings.

Develop a concept of how the environment contingent to your operation requires protection from the operation. Then begin detail planning towards operational and/or plant changes that will achieve this end. Some examples of details may include:

1. Knowledge of total hydrology of the waters contingent to your operation.
2. Flow charts showing the movement of oil or hazardous materials within or by your operation.
   a. Look for bottlenecks.
   b. Check for weak points, physical and operational.
3. Examine personnel for competence and attitude. You may need to initiate some training to cure sloppiness.

Many things can be done to prevent the spillage of oil—dykes around tanks, valves on floor drains, flap valves on drainage pipes, various warning devices, personnel training and much more; but, the main force is you. Your spill philosophy ingrains itself into your people and ultimately your whole operation.

The EPA is undertaking a vigorous program of prevention that will extend to facilities and/or vessels operating on inland navigable waterways. This program will involve on-site visits in cooperation with industry and Federal facilities for the sole purpose of prevention. Recommendations will be made and suggestions offered in an effort to reduce the problem in its "potential" stage.

In conclusion, by all means remember that our discussion here is very simplified and the answers and tips provided are thinking guides to help you get involved. Nothing herein either stated or implied should be taken as absolute or guaranteed. Basically, you now know:

1. There is an oil law.
2. A spill is your responsibility.
3. There are Federal and State officials who will aid you in prevention.
4. These same people will aid you in a spill situation.
5. Again these same people will initiate legal action against you should you take less than positive effect actions in a spill situation.
6. Finally, for the small operator some "field" suggestions have been made in the area of containment and recovery.

☆ U.S. G.P.O.: 1974—644-143/7106, Region No. 4

I ALMOST MESSED UP MY FISHING...
DIRTY OIL